

**Commodore
Computer
Users
Group
[Q1d]**



CLUB ROOMS: *MILTON STATE SCHOOL, BAYSWATER ROAD, MILTON*

NEWSLETTER

Vol.2 No.6

JUNE 1984

DIARY for JULY

Group meetings on Tuesday, 3rd July, 1984 at 7.30 pm in our club rooms.

Workshop meeting on Sunday, 15th July, 1984 from 1pm till 5pm in our club rooms. Bring your own equipment. Please note that workshop meetings are for members only!

See page 5 for further details.

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Please contact Committee members of the relevant Sub-Committee as regards specific computer problems.

To ensure a prompt reply when contacting committee members by mail, please enclose a stamped self-addressed envelope!

All editorial matter for next month's issue has to be in the possession of the editor no later than the second Tuesday of that month. The editorial address is:
24 Kaloma Rd. The Gap, Brisbane, 4061.

The opinions expressed herein are those of the Author(s), and not necessarily those of the C.C.U.G. (Q) or the Editor.

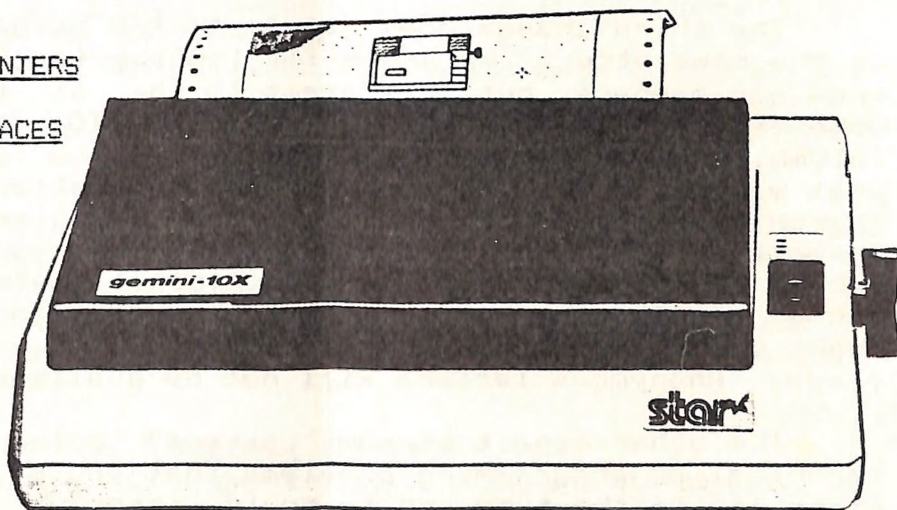
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FOR ALL YOUR
COMMODORE
HARDWARE & SOFTWARE
REQUIREMENTS

and

GEMINI-10X PRINTERS
&
CARD?+6 INTERFACES



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CHANDLERS

EDITORIAL

GOODBYE AND HELLO

This is the last issue of the Commodore Computer User's Group Newsletter that you will be receiving, but don't despair! As from next month all financial members will receive issue 1 of "CURSOR", the new official organ of our group. This change is necessary under the regulations of Australia Post, who insist that a registered publication must have a name, hence the reason for the change.

A second change is the use of a new printer in the production of this newsletter (again!). I think that you will all agree that it is an improvement. (See review elsewhere in this issue).

The third change does relate to the actual contents of the newsletter. We are still looking for more input from our members, but this seems to be an idle hope. However, we are starting a **"LETTERS TO THE EDITOR"** column, and our first request is for you to let us know what you would like to read in the newsletter, and of course what you consider a waste of time. As an example, my own feelings are that reviews of games should be restricted to new and original material, not clones of "Shoot-em-up", "Frogs", or "Pacman". Others might beg to disagree with me. Please let us have your views. Anonymous letters will not be published!

The other aspect of our "Letters" column will be technical or programming problems that you may have. If these are of the type that could interest our other members, they will be published in the newsletter. More specific problems will be dealt with by mail or telephone.

So please assist me, by your input, to make "CURSOR" the best Commodore User's Group newsletter in Australia.

Ralph De Vries

NOTES & GOSSIP

PROGRAMMING COURSES

An Introduction to Assembly Language Course will start at 7.30 pm, on Wednesday, 11th July in our clubrooms.

This is an 8-week course, and will be conducted by Steinar Johansen.

Cost of this course will be \$50.00, and a \$10.00 deposit has to be lodged by Tuesday 3rd July (our next meeting).

It will be necessary to bring your own equipment to the lectures.

There can be only a limited number of participants, so hurry with your application.

For those who are interested, Steinar will give a short talk about this course during the July meeting

Introduction to Basic Courses will be run at the Ithaca TAFE. Ring the college for further details.

Contact Derek Farrell at 359 8559 (after working hours) for more details.

JULY LECTURES

At our next meeting Terry Steer will give a demonstration of the DOODLE sketch & print program.

We would like our C-64 members to try out this program, but to be able to do this you have to bring at least a computer, monitor and joystick.

REGIONAL MEETINGS

The Cannon Hill sub-branch meets every 2nd and 4th Saturday of the month (7.30pm), in the Cannon Hill State School. For further information ring Barry Wilson (VIC 20) at 3996204 or Augy Norman (CBM 64) at 3992080, after hours.

The Springwood sub-branch meets on the 3rd Thursday of the month at 7.30pm, in the Springwood Pre-School, Dennis Rd., Springwood, 300 yards up from the service lane. Contact Terry Steer at 200 5926 (after hours) for further details.

Due to a misunderstanding Chandler's new shop at Kessels Rd. Upper Mt. Gravatt has not offered discounts to our members, as discussed during our last meeting. If you have purchased any computer equipment from this store in the last month or so and have not received a discount, go and see the manager, Mr. Perry Pappas, who, on production of your CCUG membership card and invoice, will as yet arrange for a discount on purchases made within this period. Future purchases will of course attract club discounts.

BCF Bookshops, at 107 Elizabeth St. stock a wide range of Commodore Books, and also the magazine "RUN". On production of your current membership card a 10% discount will be allowed on computer books- and magazine purchases. See Alex Young for special orders of computer books.

Did you know that there is a Commodore User's Group in Townsville? If you are moving north contact Tony Moore on 726454. Full name and address: Mr. A.W.E. Moore, 1 Paxton Street, Townsville 4810.

Thanks for your kind words Tony, we keep on trying to improve!

Do not plug a joystick in while a program load is in progress. It can cause a keyboard lockup. In fact, don't do anything while a program is loading, apart from making a cuppa.

Miles Ohlson wants to form an *Amateur Radio Subgroup*, to cover all types of Commodore Computers. If you are interested in this branch of computing, contact Miles at 448400, after hours.

From "COMPUTE", June 1984: Commodore has issued an update bulletin which corrects the proper order for turning on the computer and its peripheral devices. The sequence is as follows:

- 1st: Computer
- 2nd: Disk Drive (or Disk Drives)
- 3rd: Printer

Another point raised was not to turn all equipment on from a single powerpoint, by leaving all devices switched on, and then throwing the main power board switch. This defeats the current surge protection, and is a possible cause of damage.

STARTING WITH DISK DRIVES

Part 2

In the last article, we talked about computer Basic and what I called Disk Basic, then we had a look to see what a diskette really is. Well, sort of. To press on.....

The operating system in any Commodore single disk drive is about as complex as the operating system in the Commodore 64. There is about 16K of program permanently in each, which makes the disk drive a very powerful system indeed. But unless you know how to get to the system in the disk unit, you will never have much fun with your machine.

The commands provided for your use fall into two groups - those that are built into the C64 (which are mainly used for passing information back and forth between computer and disk drive) and those that are in the disk drive, and are often termed 'housekeeping commands'. The groups are like this:-

C64 COMMANDS:

CLOSE
GET#
INPUT#
LOAD
OPEN
PRINT#
SAVE
VERIFY

DISK DRIVE COMMANDS:

COPY
DUPLICATE
INITIALIZE
NEW (not to be confused with NEW)
RENAME
SCRATCH
VALIDATE

These commands will be explained as we go through these articles.

The first thing that you have to learn is how to talk to your disk drives. The trick is to think of disk access like a conversation that you and I might hold.

We would greet each other, say what we want to say, then bid farewell. All the time, we would be watching each other - feedback from any conversation is a vital part of the intelligence loop that we all use. Disk use is rather like this, except that you need to stick with some rules of conversation.

The rules of polite conversation also apply to your disk drives. The salutation is all important. To do this, you need to use the correct syntax. Commodore has provided the facility to set up conversation 'lines' by opening channels to peripheral devices such as printers, disk units, cassettes and so on. You can have a number of lines open at one time, but the important line (or channel) with disk drives is what is termed the 'error channel'. Channel 15 has been set aside specifically as the error line, so to get the conversation going, we do this:-

OPEN X,8,15

What does this do? The Commodore syntax is unique, and very easy to use. 'X' is the file number of your choice, and can be any number 1 - 255, but for simplicity is usually 1 - 15. The device number assigned to disk drives by Commodore is 8, so we must mention this. The last parameter is the channel number to use. To send commands to the drive, we will use Channel 15. You can type this command in direct mode (straight from the keyboard) or in a program. Remember it - you will doubtless have many occasions to use it.

The three parameters used here have official names. 'X' is Logical File number, '8' represents the Device Address, and '15' is termed the Secondary Address. All are important, but don't worry too much about them for now.

I mention them here only to provide some sort of link with the terminology used in handbooks and magazine articles.

JUNE 1984

Having struck up a conversation, we now need to say something. What will we say? Let's put the disk drive read/write head over the directory track, ready for some action. The Disk Basic keyword that does this is built into the disk drive - 'Initialize', and may be followed by the drive number if more than one drive is on the line. The keyword is a bit longwinded. Luckily the disk drive can figure out what to do from the first letter ('I' in this case), so we can send the command with a minimum of fuss. The conversational routine is to send the command by 'printing' to the channel we have opened. PRINT#n is the syntax to use, so if we have opened file 7, we have:-

```
OPEN 7,8,15    and now
PRINT#7,"IO"
```

Notice that the command is in quotes, conversation-style. To finish off our conversation, we say 'bye with

```
CLOSE 15
```

That didn't hurt too much - but it didn't do an awful lot either, and will only work on a disk that has been formatted. That's the next article. But you now know how to strike up a conversation with your drive. Welcome to the Midnight Mutterers Club.

PAUL BLAIR

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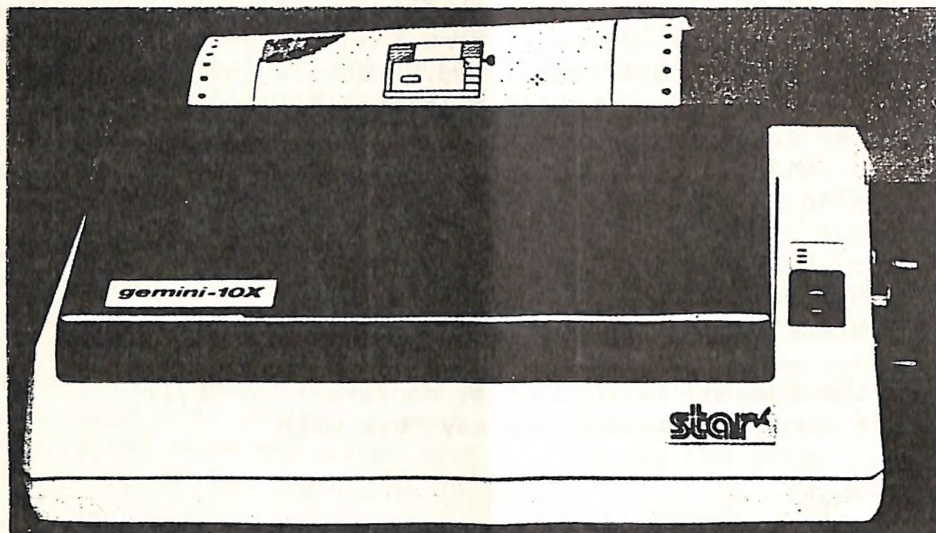
IMPORTANT NOTICE!

Paul Blair's articles on *DISK DRIVE MANAGEMENT* will shortly be made available in booklet form.

We hope to have further details in our next newsletter.

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GEMINI-10X PRINTER & CARDPRINT+G INTERFACE A REVIEW



As mentioned some months ago I was in the process of purchasing an Epson RX-80 printer, when, through circumstances beyond my control, the sale fell through. As I had disposed of my 1526 printer in the meantime I was forced to buy another printer, hence the MPS 801. Although this printer is mechanically perfectly sound, I felt that it was not good enough for the production of this newsletter. When I found the STAR Gemini-10X printer at Chandlers, I knew that was the one I wanted, except that no suitable interface was available. Some days later new stocks of the American Cardprint+G interface arrived, thus I was in business.

Why buy the Gemini? Although not too well known in Australia, it is extremely popular in the States. It's features are practically identical with the Epson RX-80, but it has some important advantages of its own. Here are some of them:

1: Price. This printer can be used with tractor-fed, sheet, and roll paper. No extra bits to buy, thus at least \$100.00 less than the Epson RX-80.

2: Speed. 120 characters per sec., against 100 characters per sec. for the Epson.

3: Ribbons. Supplied on a conventional typewriter spool, which can be reversed if one side starts to wear a bit thin. Compare that against the fancy-priced cartridges of most other printers (\$14.00 for Commodore types).

As this is a Centronics type printer it needs a special interface to work with Commodore computers. The Cardprint+G interface allows this conversion, and thus the printer can emulate all the Commodore's printer features. You can have access to the Commodore graphics, and listings are printed out with sensible texts, which are easy to follow. The interface is powered from the cassette port, thus not tying up the cartridge and user ports, while still allowing your cassette to be plugged in.

This particular combination works just fine with the "Paper Clip" and "Easy Script" word processors and the "Doodle" sketch program.

Herewith some samples of the different type faces available:

This is the standard (10 pitch) character size.

This is the Elite (12 pitch) character set.

This is the Condensed (17 pitch) mode

This is Enlarged (5 pitch)

This is the Elite size in Italics

Italics in all 4 sizes

Underlining can be done in all sizes

And here are some ^{superscripted} characters.

And these are _{subscripted} characters.

These are only some of the many features available in this fine printer.

It must be obvious by now that I am absolutely delighted with this printer and interface. For just over \$500.00 for the package I consider it currently the best value for money for both VIC and 64 users. Thoroughly recommended.

Ralph De Vries

VIC-20 NEWSTECHNICAL INFORMATIONFailure of VIC-20 and C-64 to reset from cold start when using a disk drive.

If, during normal operation of the VIC-20 and C-64 with a disk drive, you wish to "cold start" the computer by switching the power switch off, and then to find that either the pointers have not reset or the memory has not been cleared, the following may be your problem.

When the disk drive is switched on, the static condition of the address lines on pins 3 & 4, and reset line, pin 6 of the serial I/O port is logic 1 (0 V.). This condition also applies to the serial I/O port of the computer when switched on; so connecting the two presents no problem.

However, if you switch the computer off, the 5V. level on the serial I/O port of the disk drive is still connected through to the computer I/O port, and unfortunately this voltage leaks back through the components in the computer, mainly the VIA and CIA IC's, and causes the 5V. rail in the computer (which should be 0V., because the computer is switched off) to read about 0.8V. Depending on the characteristics of the components this will be sufficient voltage to prevent the memory from clearing properly. Removal of the interconnecting lead from the disk drive, or turning the disk drive off, will cause the 0.8 V. to disappear and memory will reset correctly.

The problem was overcome in a VIC-20 by adding an additional buffer to the serial I/O port of the computer. Cost of components is \$3.00. Details are available to interested members.

Manual Reset

With respect to the article written in a commercial magazine regarding the use of a manual reset switch, to ease the mind of those using the method, read on - mind you this is still only an opinion.

Of the many IC's that use logic 0 (0 V.) for the reset function I haven't seen specifications to the contrary that the manual method of switching to achieve 0 V. should not be used, although I must confess that an electronic switch would produce a cleaner function than a manually operated switch.

The electronic switch in the VIC-20 is a TTL converter buffer open collector type, driven by a 555 timer. The manual switch is in parallel with the buffer, and putting a short circuit across the buffer has no effect on the buffer at all.

Perhaps, if one wishes to tidy the operation of the manual switch, a 0.1 mfd capacitor could be fitted across the switch, or the switch could be fitted such as to ground pin 2 of the 555 timer*, thereby resetting the timer, - or as there has yet to be a fault attributed to the manual reset switch, and to be brought to the attention of the members, forget about the whole thing!

* On the C-64 pin 8 on the 556 timer is the reset connection.

PRINTED CIRCUIT BOARDS

30 Dual Tape Adaptors to suit VIC-20's and C-64's are being made by the VIC sub-group. Cost \$3.50 for the board only. Sockets and IC will be purchased when requirements are known. Cost of these appr. \$4.00.

Contact Clayton Lancaster, Barry Wilson or Roger Haigh.

If sufficient numbers are forthcoming another run of Expansion Boards for the VIC-20 will be undertaken. Cost again appr. \$27 - \$30.

Contact the abovementioned members to place an order.

Roger Haigh

VIC SOFTWARE REVIEWS

Firstly, in this month's issue, we have two educational games.

WORDS, WORDS, WORDS by A.S.K. requires 16K. expansion, and is for the young child learning to read. It is an excellent program, in which the child builds up scenes by spelling the names of objects correctly. Once a scene has been correctly completed things begin to happen in the picture. In the street scene, for example, the car drives off the road into the garage, the boy and his dog go into the house, the sun goes down, and the moon comes out and travels across the screen to the next scene selected by the child. There is a choice of eight of these. My children (grade 2 & grade 4) enjoyed the program immensely. I felt that the program may have been too young for my son (grade 4), who is a good reader, but he loved to make up the pictures and was amused by the results, especially the farmer and his tractor. He was also able to help my daughter (grade 2) when it came to spelling. The hardest part they found was to recognize some of the objects - e.g. the cow looks a bit like a horse. In this case, if the object is entered incorrectly twice, the correct spelling is shown, and the next object appears, but the incorrect one is omitted from the picture. For a family with kids in this age group I thought the program had good educational value, as well as being fun. Price is \$28.00

TABLES TRAINER by Contronics, the second educational game, asks the child's name, and then asks them to select which set of tables they want to be tested in. At the end of ten questions you are given the time taken for your answers, and asked if you want to try again to beat your score, or move on to another set of tables. It also gives you a list of the best times for the tables from 1 to 10. Priced at \$18.95, a good tool for tables practice, but not terribly inspiring as a game.

THE SKY IS FALLING is a cartridge game that requires paddles to play it. Chunks of rock are falling from the cave roof and you must catch them before they hit the ground. On the first level you have three bats to catch them with, on the second level two bats, and on the last level only one bat. Then you really have to keep moving fast, as they start to fall everywhere in larger numbers. Once you miss three, that's it. Priced at \$22.00, the game can be played by one or two people, alternating turns.

RICOCHET reminds me of a cross between the old pong games and pinball, but on a much superior level. The game comes with a very informative instruction book and needs a minimum of 8K. expansion. You can either play against the computer or against another player. Each side has six pieces which may be moved horizontally or vertically, but in only one direction at a time. By firing a ball from either the top- or bottom launcher, points are scored by rebounding it off the pieces. If the ball breaks through to the opposition's launchers or bumpers extra points are awarded, but if you hit your own, your opponent scores. There are 5 variants in the game, each one having extra bumpers and launchers. Just watching the path of the ball can be fascinating - like the 'forty-five bounce launch' mentioned in the book. A fascinating game that could give hours of fun and lots of opportunities for improving your strategy. No price supplied. Manufactured by Epyx, who, I have found, seem to produce a superior quality game.

Julianne Fallen

More Notes & Gossip

For our members we have *Diskettes* available @ \$30.00 per library box of 10.

The group can also supply *Disk Storage Boxes* (hold appr. 90 disks) for \$35.00. Contact John Egan or Greg Perry for these.

Would you like to see a workshop arranged around a specific topic?

If so let the committee know about the topic you would like to see covered. It could be about specific applications, such as wordprocessing or spreadsheets, aspects of Basic programming, file handling, or any other topic.

Put your thinking caps on, and give us heaps of suggestions.

For those of you who attended Greg Perry's lecture on file handling during the June meeting, we would like to draw your attention to an article in the April issue of "RUN" magazine on Relative Files. It is quite informative.

We would like to see more members bringing their computers to monthly meetings. We know that it is a hassle to bring all your equipment, so how about pooling resources with some friends, and all bring a different component?

CBM 64 NOTES"SONGWRITER" (Scarborough Systems) - DISK - Appr.\$50.00

Our copy by courtesy of Chandlers Pty.Ltd.

This program is aimed at the educational market, and as such it is outside my province. As it does not use many of the SID chip's built-in features it is of extremely limited value to the average user. As my wife is a music teacher I think she is better qualified to review it from an educational point of view.

Ralph De Vries

SONGWRITER is aimed at the upper primary child, that is the 11 and 12 year old. It could be used successfully by a younger child with prior musical knowledge. The instruction booklet is very clear and self-explanatory. There is a very useful chapter at the end of the booklet about Musical Terms. At the end of each chapter there are activities for the child to do.

One disadvantage of the program is that only one voice is used. This means that only one melody can be played, thus no chords or accompaniment. Another problem is that the melody you write cannot be printed out- it can only be saved on disk. A child using this program would need a knowledge of rhythm to create a successful melody. If a child was very musical, he or she would find that their creative ability was being hampered by this program.

Personally, I feel that this program is only of limited value. It does not cater successfully for either the amateur musician or the very talented child. I would like to see a much better musical program for educational use.

Mary De Vries

CHESS! (ODESTA) - Disk - Appr.\$45.00

Available from Futurehouse & Chandlers

First there was "Micro Chess", available for the PET. This was an improved version of the original TRS-80 game, but still pretty primitive. It's opening library of moves was pretty restricted, and after a short while you soon learned how to beat the thing.

Then came "Sargon 2" for the VIC - already very popular with Apple and TRS-80 users. The VIC version fitted into 8 K of memory, and made a very good opponent for the average player, but at it's higher levels it is pretty slow.

With the arrival of the 64 there appeared a new chess program, called "Grandmaster". It took 11 K of memory, played a pretty good game, but on it's highest level (?) the computer could

take up to two hours to make it's move! The other major limitation was that the program didn't allow setting up problems with just a few pieces. Very annoying.

And now we have Odesta's "How about a nice game of Chess!", by Larry Atkin. Yes it is a bit of a mouthful, but never mind the name. This program originally appeared some two years ago on the Apple, and now we have the 64 version. The main program itself uses more than 40K of memory, as well as accessing the diskette for additional features during the course of play. Let me start by listing the features that I don't like:

1: The chess board is black and white, with a black border. This causes the black squares on the outer perimeter to merge with the background. It does not look good, and would only have required very little extra programming to give us a dark grey border.

2: No built-in chess clock, thus no time limits in a game.

3: No ability to save a partially finished game. (Possible in the Apple version.)

4: After a game is finished, it is possible to list all the moves to the screen, but it would have been nice if they could have been listed to a printer.

But now for some of the good features:

1: The game comes with a first rate instruction book of 96 pages.

2: A built-in Tutorial for beginners and those players who are out of practice. The 6 chapters cover 'Chess Pieces', 'Check & Checkmate', 'Special Moves', 'Chess Openings', 'The Middle Game', and 'The End Game'.

3: There are 10 levels of play (0 to 9), but even at the top level (9) the program takes only between 2 - 6 minutes to make it's move! This is quite an improvement on "Grandmaster"'s 2 hours! From level 2 onwards the program uses it's library of opening moves. Appr. 7000 moves are stored in memory!

4: Yes you can cheat! You can switch from white to black, you can take moves back, you can let the computer do the moves for both sides (that makes it really easy!), you can ask for advice on your next move, or ask the computer which of your squares are under attack, or which squares you can attack. That's quite a few possibilities. Though, if you do cheat a bit, and ask for a listing of all the moves when the game is finished, it shows your 'improved' moves in inverse video - a nice little touch!

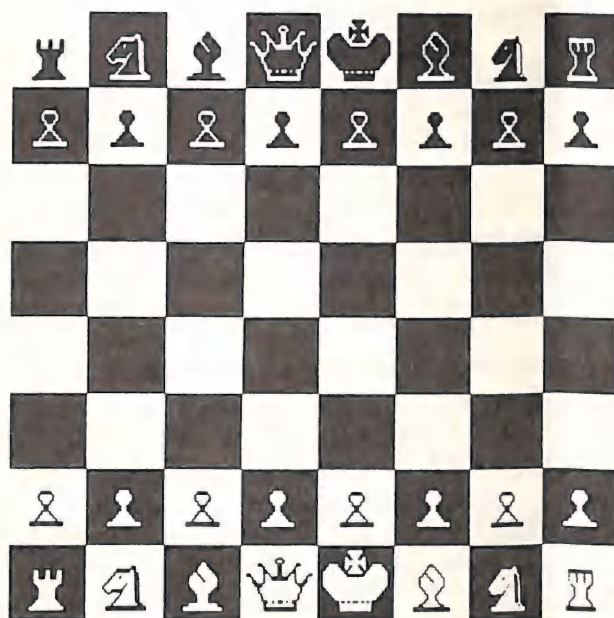
5: You can 'clear' the board and replace it with pieces to solve a chess problem. However the game will not continue without at least the two kings on the board - another nice touch.

6: Two human opponents can play each other, and the program acts as a "referee", who checks the legality of all moves.

7: Basically you only use the two cursor keys and the return key for all moves. You don't have to remember the numbers of any squares, as the cursor key shows you all the pieces that can move. Once you have decided which piece to move, you press return, and than your cursor key will show you to which squares your piece can move. Again when you have decided to which square your piece is moving you press return and bingo!

8: All options available to you at any given time during the game, are visible to the right of the board and can again be accessed with the cursor and return keys.

How About A Nice Game of **CHESS!**



WHITE

CHESS

CH1

CH2

CH3

CH4

CH5

CH6

←TUTOR

CHECKMATE

START NEW GAME

MAIN MENU

FLIP
CHANGE
LEVEL
LIST
INWARD
OUTWARD

←BOARD

MANUAL
SWITCH
AUTO

RESTART
QUIT

CONDITIONAL FEATURES

ADVICE

↕OPTION
BACK
REPLAY

PROGRAM

RERUN
RESUME

All in all, a very good computer chess program, and although it is about double the price of "Grandmaster", it is at least twice as powerful. Highly recommended.

POSTSCRIPT: In America "Sargon 3" has been released for the 64. No details known yet, but it should be good! If and when it arrives, we shall arrange a tournament between two 64's, one loaded with Podesta's Chess and the other one with Sargon 3. Await further details!

Ralph De Vries

"FLOWER POWER" (Computer Craft - disk - \$47.00)

Supplied by courtesy of CW Electronics, Stones Corner.

Flower Power is described as an easy-to-play educational program designed to teach the basics of arithmetic. The program covers Addition, Subtraction, Multiplication and Division of the following choices:- Whole Numbers, Fractions, Decimals. There is also a Fraction/Decimal Conversion.

One advantage of this program is the fact that it combines all the basic mathematical drills in one program. This is itself not unique but the program also includes fractions and decimals which often don't appear in programs of this type. This is an excellent feature as children who are having problems with basic maths facts almost invariably have problems with fractions as well.

The program states that it is designed for ages 5 to 15 years but in my opinion it is mainly applicable to the younger age groups up to 12 years.

The program is quite colourful and the graphics should keep the younger children interested with flowers growing in a garden if the answer is correct and a weed being produced if the answer is incorrect.

I would have liked to have seen the program designed so that a particular skill level could be chosen and the child practice that level for the required time. However, the program designers have met this requirement to some extent by ensuring that the skill level is slightly reduced once a player gives an incorrect answer. The questions progress very quickly from simple to difficult in any set of 10 questions. This is a problem for younger children or those who have problems with mathematics and is another disadvantage of not being able to preselect the skill level required.

For the price I would also have expected the ability to return to the menu before completing a set or to go on to higher levels of the same type if so desired.

In the program supplied the disk error light came on and stayed on throughout the program. This was disconcerting but did not affect the program.

Dale Gilbert

G-PASCAL: A REVIEW

G-Pascal, the language for the C-64, takes a few minutes to load from tape. Basic doesn't have to be loaded at all. The question to be answered then about G-Pascal is: is it worth waiting for?

It is well known that "real programmers don't use Pascal" - it is about as un-macho as eating quiche. However, I like Pascal, because when approached properly, it is easy to read, write and understand. I was pleased then, to find that I could use Pascal on my own computer.

I found, unfortunately, that G-Pascal is not standard Pascal, and in fact has certain aspects that make it rather less useful than the standard version.

Firstly, of the four standard data types in Pascal, only two are allowed (Integer and Character). Real numbers and Boolean (true/false) values can at best only be simulated by some rather quirky procedures, adding to the amount of program text. Any program dealing with very large or very small real numbers would be impractical to implement.

Next, arrays can be of only one dimension. Even Basic can do better than that!

Extra pre-defined procedures are added to make graphics and sprite handling "easier". If you think calling a procedure with ten or more parameters is easy, congratulations. The manual suggests that you type in a few constants to help you. The manual takes a full page to list them all.

Your progress through the program is controlled by menus, and most menus lead to further menus. Once you get to the stage of actually giving commands, they are always single letters - I've never liked that, because it is so easy to send a wrong command. As well, only one menu exists with the "Print" option on it. It does its work extra well, and even prints the menu, even when you don't want it! And when you tell it to stop printing, it prints a message to let you know that it has. As a result, any G-Pascal program listing will have a lot of unnecessary text around it. This smacks of bad organisation on behalf of the G-Pascal people.

In its favour, anyone wanting to learn Pasac1 could use G-Pascal quite happily, as long as they don't need advanced techniques. A lot of attention has been paid to G-Pascal's support of graphics capabilities. In fact, it seems that it was produced entirely for people who want to write arcade games. In short, it's alright to play with, but I wouldn't want to use it seriously.

Pauline Francis

Super Expander 64 (Commodore) - Cartridge - \$30.00

Our copy by courtesy of Chandlers, 43 Adelaide St.

A major complaint about the 64 version of Basic has always been the fact that it does not have any special commands for Graphics and Sound. The only way to access these facilities is by means of the Peek and Poke commands, which is not easy for beginning programmers. Wouldn't it be nice if we had for example a "Sound" command which, on insertion in your Basic program, would play Beethoven's 9th Symphony. Regrettably it is not as easy as this, as anybody who has studied the Programmers Reference Guide will acknowledge.

The Super Expander cartridge does offer a wide range of Graphics commands, a few Sound commands, and a command to define the Function keys; 32 commands altogether. The question is: how useful is it? It is here that I start having my doubts, as the instructions which come with the program make it quite clear that a very thorough knowledge of the Graphics- and Sound memory lay-out is required. As an example the 'Circle' command could have as many as 7 parameters, and the same goes for the 'Sprite' command! Hardly for beginners, I should think.

The commands that are there do work quite well though, as can be shown by some of the sample programs included in the instruction book, which seems to be quite good by Commodore standards.

The other disadvantages apply equally to similar Basic Extension programs, namely that they take away approximately 8K of your memory, and programs written with the Expander can only be used on a computer with an Expander in place.

So here we have a case of a good basic extension program, which, at the price asked, is pretty good value for money, but which is only of limited benefit.

It is too difficult to be of very much use to the beginner, and the advanced programmer will, with a little bit of extra effort, do equally well without the use of the Super Expander.

Ralph De Vries

COMMODORE 64 COLOR GRAPHICS: A BEGINNER'S GUIDEby A.R. & D. Shaffer - \$16.95

This book I found to be a must for any Commodore 64 owner, whether she or he is an experienced programmer or a beginner who has never created a high resolution computer 'picture' in their lives.

In addition to learning to "draw" the user creates in a step by step format a *toolkit* of graphic subroutines that has everything you need to get you started on a hi-res program. To name a few routines: plotting points/lines, complex shapes, and designing/moving sprites.

The book also includes the working details of the various routines, general information for the first-time users, principles of art design- and colouring, and machine codes to speed up the slower routines.

My review copy came from Scarborough Fair Computer Centre of Southport, and at the price is an excellent buy.

A welcome addition to my small library.

Anthony Thyssen

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